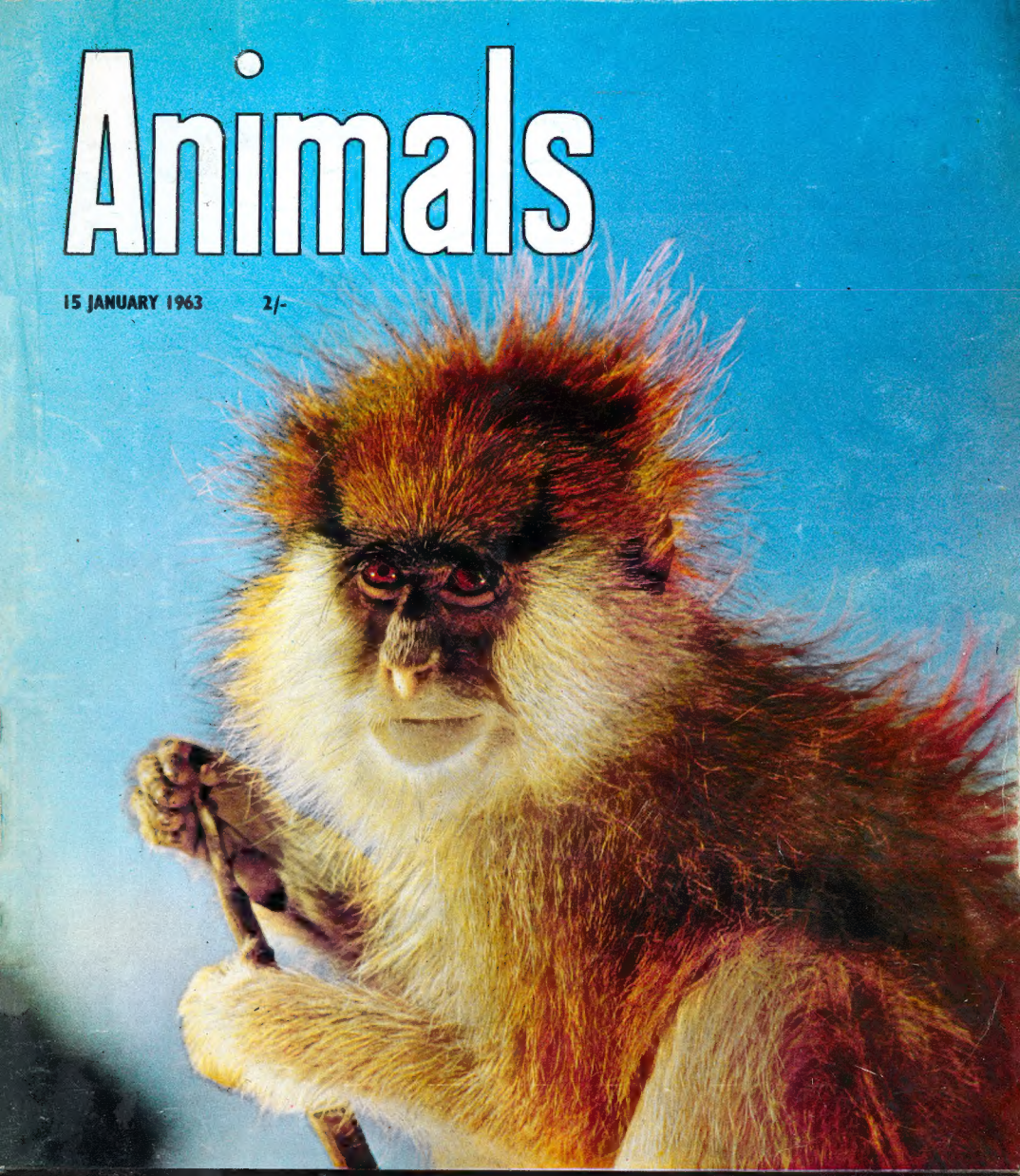
Animals

15 JANUARY 1963 2/-



ARMAND DENIS EDITOR-IN-CHIEF

animals in danger

Probably no species of animal is so close to extinction as the Arabian oryx. The few remaining specimens roam the desolate wastes of the Arabian peninsula, so it is difficult to say exactly how many of them there are. The most optimistic estimate puts the total at not more than 100—but it is likely that the true figure is considerably lower than this, perhaps between 10 and 20. On **page 19** there is an account of an expedition, sponsored by the Fauna Preservation Society and backed by the World Wildlife Fund, which successfully transferred three Arabian oryx to safety in Kenya.

cover picture

The patas or hussar monkey (Erythrocebus patas) *inhabits the grassy woodlands and acacia scrub between the Sahara desert and the tropical rain forest zones of Africa. Unlike most monkeys, it is almost wholly terrestrial, moving around on the ground with several companions, and relying on its speed to escape from enemies. Its food consists of roots, fruits, insects, and small reptiles. Young patas monkeys are almost entirely red, the white underparts developing as the animal matures. The fully-grown male is a large animal, weighing up to 60 pounds. In the past, the Teso tribe of Uganda considered patas flesh to be a cure for leprosy, while no other people, except the very old, would eat it.*

Animals

VOLUME 1 NUMBER 2

Message from Sir Julian Huxley		3
On Safari with Armand and Michaela Denis		4
Chipping Squirrel	*Margaret Kabell*	7
Zoo Page		10
Tuatara		12
Digger		14
Threat to the Threatened	*Alan C. Jenkins*	15
Operation Oryx	*M. H. Woodford*	19
Owls: The Silent Killers	*Hugh Brandon-Cox*	23
007 Meets Thomas	*Stephen Dalton*	28

All correspondence should be addressed to the Editor at 5 Stanhope Gate, London W.1. No responsibility will be taken for the loss of unsolicited manuscripts and photographs or damage thereto. Contributions should be accompanied by sufficient return postage. The Editor reserves the right to alter unsolicited manuscripts in any way he thinks fit.

EDITOR-IN-CHIEF: Armand Denis
EDITOR: John Chancellor
DEPUTY EDITOR: Gwyneth Pugh
ASSISTANT EDITOR: Nigel Sitwell
FEATURES EDITOR: Rowland Windsor-Clive
PRODUCTION MANAGER: Iris Dear
CONSULTING EDITOR: Michael Tweedie

SUBSCRIPTIONS

Animals can be obtained from all newsagents, or, in case of difficulty, from the publishers.

Rates:

52 weekly copies of **Animals** £5.4.0d. (*inc. post & packing*)

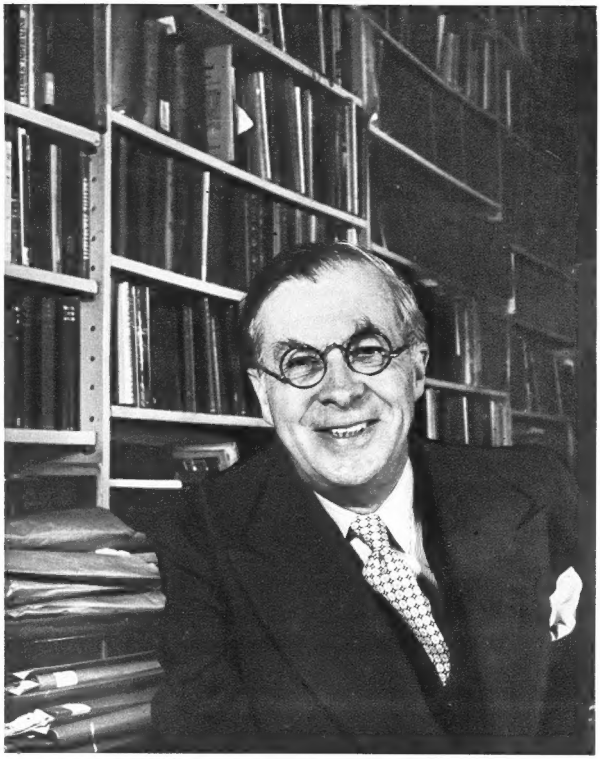
26 weekly copies of **Animals** £2.12.0d. (*inc. post & packing*)

Payments should be sent to:

Animals,
Department S,
Purnell & Sons Ltd.,
PAULTON, Nr. Bristol.

Back numbers, at 2s., can also be obtained from the above address.

Message from Sir Julian Huxley



I AM delighted to be a patron of **Animals.** This magazine should be read by people of all ages. Interest in animals has been growing steadily in recent years. Many more people today find enjoyment in watching wild animals and interest in studying them.

I hope that **Animals** will fill the gap left by the closure, during the last war, of the **Animal and Zoo** magazine which I started. Since those days, enormous advances have been made in the arts of photography and printing and I must confess to feeling rather envious at the glorious colour opportunities in **Animals.**

Animals intends to give great prominence to conservation of wild life and to all wild species and communities threatened with extinction. This befits our close association with the World Wildlife Fund, and its chairman, that great conservationist Peter Scott. Although articles on these animals, such as the panda, the Arabian oryx, the white rhino, etc., have a great popular appeal, **Animals** will also stress the scientific and practical importance of preserving the habitats of wild life and of utilising wild animals either as a tourist attraction or for providing meat—"wild protein".

I believe **Animals** will be a source of interest and enjoyment to an ever-widening public, and I wish it a long and successful future.

Right
The protective colouring of the Grant's gazelle often saves it from its enemies

Left
Thompson's gazelles are very similar to Grant's

LAST week I told you about some of the animals we see on our expeditions in Kenya; this week I should like to take you with us on another safari.

It is always difficult to get really close to wild animals—close enough, that is, to study them and find out something of how they live. On the game plains of Kenya there is very little cover, and suitable bushes to hide behind are never where you want them.

ON SAFARI with Armand and

Michaela and I sometimes camouflage our car to make it look like a bush; this has given us wonderful opportunities of taking animal close-ups that would otherwise have been impossible.

Let us imagine that we are on the look-out for lion. The herds of antelope that we pass seem rather nervous, which may mean that a lion is on the prowl.

These antelope are mainly Grant's gazelles and Thompson's gazelles. We are constantly coming across mixed herds of them, and at first it is difficult to tell them apart. Eventually one learns that Grant's gazelles are paler and pinker in colour than Thompson's, and are quite a bit larger and heavier as well. Then, too, Grant's gazelles are white over the rump and tail. Thompson's gazelles are affectionately

The male lion seldom kills his prey; he usually drives the game to the female and lets her finish the job

known as 'Tommies' all over East Africa.

It may surprise you to discover that there are so many thousands of gazelles in Africa, for they look such gentle, defenceless creatures and they have so many enemies. The only reason why every baby gazelle isn't killed is that the mothers all give birth at practically the same time. In the first few days the hyenas, jackals, and other predators probably get hold of every baby the moment it is born, but after a while they are so gorged with food that they can't eat any more. At this point the babies begin to survive, in spite of the fact that the mother does not usually have a chance to hide before she gives birth because the herd is always on the move and she cannot afford to be left behind.

Next we pass some impala. It is always thrilling to watch their graceful movements. They will be going along quite peacefully when suddenly one of them will make a tremendous leap of up to twelve feet, twisting in the air at the same time. These impala seem nervous and uneasy, and the other antelope show signs of alarm—and with good reason—for a group of lions has appeared. A 'pride' of lions is the technical term but they look more like a family party: the big male lion, with two magnificent lionesses, and several cubs, still wobbly on their legs. The lions have obviously just returned from a successful hunting party; they show not the slightest interest in the fleeing antelope.

Lions are sociable animals with a strong family life. You will find a male lion with two or three lionesses, each with its own cubs; and occasionally two families will join together. They have their rivalries, of course, but I have often seen two males with a group of females apparently living in harmony together.

Like cats, lions are affectionate creatures, particularly towards each other. If they have been separated for a while they will rub their faces together for a long time when they meet again. The young always show affection towards their parents, and the parents towards their children. You may see lions threatening each other, but seldom fighting.

The relationship between different groups of lions is also very interesting. It is amusing, for instance, to see two hungry lions on the prowl come upon

Michaela Denis

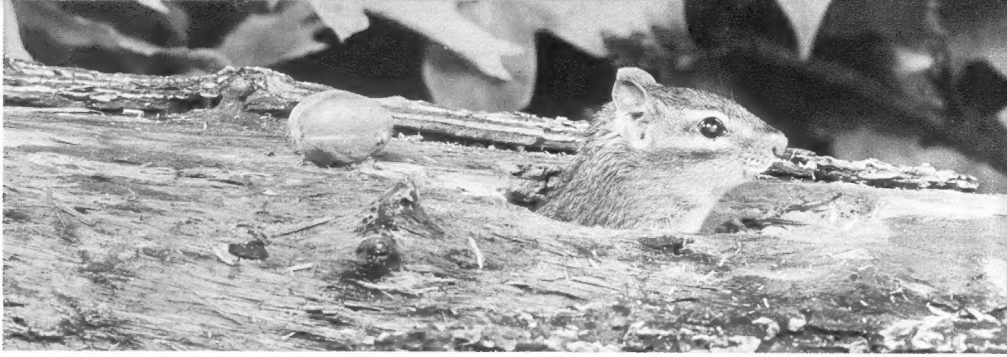
Lions do not live in jungles, but are found in savannah, scrubland, and grass plains

Vultures are solitary birds; they are seldom seen in groups except when converging on a kill

a group that is already eating. They look on enviously and want to join in, but they aren't sure how they are going to be received. So what they do is to approach very gradually, moving forward only a few inches at a time, and if one of the group looks round they stare up at the sky with innocent eyes, as if to say: 'Do you think it will rain today?' Then, as soon as they are unobserved again, they will edge in a little farther, and so on. Usually the family group is resentful at first, but after a while, when the big lions have eaten enough, they slowly relent and finally allow the intruders to come and share the food.

We think of lions as being dangerous animals, and so they are if they are hungry, but these ones pay no attention to us. They must have made a kill somewhere near, judging by the vultures wheeling in the sky.

It is only when congregating at a kill that vultures are seen together. Their eyesight is incredibly sharp, and they can spot the kill from a fantastic height, but it is not true to say that vultures always flock to a kill within a matter of minutes. Sometimes it happens; sometimes it doesn't. We once relied too heavily on that theory and arranged for a carcass to be placed in a wonderful location which we wanted to use as a setting for a picture. We thought that all we would have to do would be to stand a few yards away, and the vultures would come and we would get our pictures. We waited for hours, and nothing happened. Finally, we thought that perhaps our presence was frightening the vultures away; so we went off for an hour. But when we came back again, the carcass had still not been touched. We went away once more; when we returned an hour later there was nothing left of the carcass. I don't think vultures spot a carcass immediately; one or two may see it and that brings the others to it. It may be a matter of confidence, for very often, when you yourself have prepared everything, they will come down and be all around you, but they won't go near the meat until one of them takes the plunge, and then they all go in simultaneously.



CHIPPING SQUIRREL

The winters are hard in Colorado, but when the snow melts at last, the chipmunks appear in their hundreds . . .

By Margaret Kabell

WE HAD a sudden snowfall one May, and as I looked from my cabin I saw a shivering chipmunk picking his way across the drifts. His furry tail waved wildly and he looked anxiously round with bright black eyes before popping down into a hole beneath the house, where no doubt he had spent the winter.

Chipmunks do not sleep very deeply—not like their cousins the wood-chucks, who, it is said, can be rolled across the floor like a ball without disturbing them. Instead, they lie more like kittens, with their heads tucked in comfortably, and their own soft tails making a pillow. They live in groups, and may wake occasionally during the long winter to feast on the seeds they have hidden away during the summer.

Chipmunks are found all over the North American continent, and the ones I knew lived in the Colorado Rockies. We had 14 feet of snow there and temperatures well below zero for months on end. The chipmunks, therefore, though they might stir drowsily now and then, had the sense not to try to come out until the spring thaw filled the creeks and the aspens took on their first faint show of yellow buds, until the golden glacier lilies sprang to life along the edges of the fast-retreating snowdrifts. The one I mentioned had been tempted out, like the rest of us, by spring sunshine and the sound of running water from every hillside.

That last snowfall soon thawed and suddenly the sun, which had glistened all winter on a dazzling snowfield, was warming the earth and waking all nature to another year of life. And then the chipmunks were there in their hundreds.

I never saw a really young one, so I suppose they stay with their mothers, who keep them well hidden until they are old enough to fend for themselves. There are plenty of natural enemies in the wild which might prey on such tiny creatures, amongst them the skunks, who are vermin-eaters and would not be too choosy. It is said that in a good year the female chipmunk will produce two litters, so it is not surprising that they sometimes seem to scuttle under every bush and fallen tree.

Chipmunks are rodents, related to the ground-squirrels, and are only about five or six inches long—although they have four-inch tails. Typical edge-of-the-forest dwellers, they love brush-wood, where they can sit and sun themselves on tree-stumps, and, as the year goes on, find plenty of food. They live mainly on seeds, which they tuck into their pouched cheeks and carry away with them.

continued overleaf

Chipmunks are reddish-brown in colour, with five black stripes from head to bushy tail, little round ears like mice, and bright round eyes. They are sociable little creatures and become very tame.

Out on camping trips, far away from human habitation, I have had them hopping up to me quite fearlessly, perhaps to look for food, perhaps out of sheer friendly curiosity, ready to scamper off if I moved too suddenly, although they would return when reassured that no danger threatened. Indeed, there is no need to catch a chipmunk in order to have one as a pet. If you seek his friendship patiently, he will sit on your door-step and even become tame enough to take food from your hand.

In the spring, when the chipmunks come crowding out of their holes, delighted at the warm sun on their furry backs and the prospect of fresh food once more, they make a sort of chirruping sound. Indeed, this has been likened to the spring song of birds, and their other name, 'chipping squirrel', refers to this chirruping.

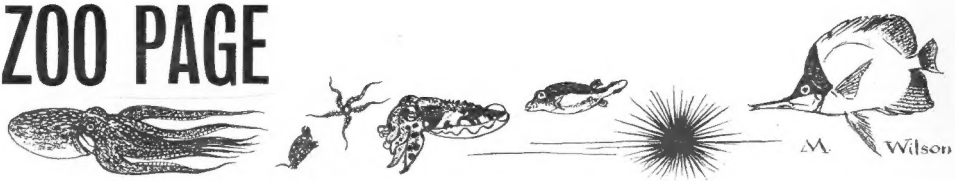
Summer soon passes in the mountains, and when the night frosts begin again, the chipmunks become feverishly active, bustling here, there, and everywhere with full pouches, storing away their winter supplies.

The foundations of log cabins provide them with excellent corners for their winter sleep. Farther afield, they make burrows, which run at a slant into the ground for perhaps eight feet, and to a depth of about two feet. Once settled for the winter, they do not voluntarily move again. One day the clearing round your cabin will be full of them, hurrying about their business; that night the clouds drop lower over the hill-tops, and you wake in the morning to the first snowfall of the season, and there is not a chipmunk to be seen. It is time for them to sleep, and for man to get out his skis and snowshoes.

Chipmunks collect large stores of nuts and seeds to last them through the winter months, when food is less plentiful

As chipmunks usually forget the whereabouts of their stores of food, they are important agents in the distribution of nut-bearing bushes and other plants

ZOO PAGE



NEW ACCOMMODATION AT DUDLEY AND FRANKFURT

A general view of the ape house at Dudley Zoo, one of the most modern in Europe

Dudley Zoo's monkey-house, opened last year, is as modern as any in Europe. Many will have seen it featured on television.

The new structure, which houses families of gorillas, orang-utans, and chimpanzees, is particularly unusual in that it is completely without bars. However, the animals are separated from the visitors by a wide water barrier and a single strand of electrified wire.

Behind the out-door enclosures there is a hall stretching the full length of the monkey-house, and visitors can view the animals at close quarters through armour-plated glass.

The building is a completely self-contained unit. There is a large kitchen at one end where all the animals' food is prepared, while at the other end there is a fully-equipped welfare centre and hospital. Other features of the monkey-house, which cost nearly £30,000, are underfloor heating, overhead infra-red units, and thermostats to maintain the correct temperature for each species.

Until quite recently the monkeys at Frankfurt Zoo in West Germany had no home of their own. Their old quarters were burnt down in the Second World War, and since then they have been moved from place to place and were even in the giraffe house at one stage. However, in September last year, a magnificent new house was opened for them by the Zoo's director, Dr. Bernhard Grzimek, who is also one of the advisory editors of **Animals.**

In his opening speech, Dr. Grzimek pointed out that the most up-to-date knowledge of animal psychology had been used in designing the house.

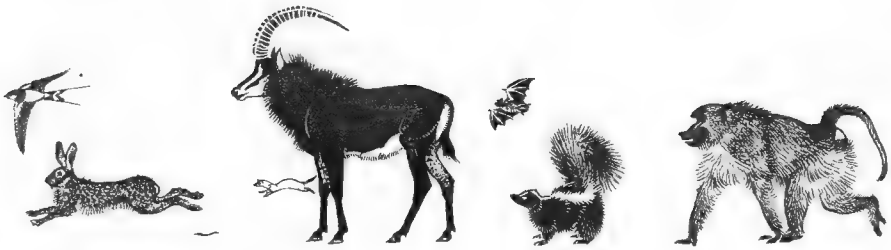
The proverb 'Out of sight, out of mind' has a literal application to the new monkey-house: the smaller monkeys are provided with stone formations behind which they can hide from any larger monkey who happens to be in a bad mood.

VISITORS KILL WALRUS

It has been said that although we humans regard the cages at zoos as protection from the animals, the animals themselves think of their cages as protection from humans.

A tragic accident which occurred recently at the New York aquarium suggests that the animals' point of view may have more truth in it than our own. *Seeku*, a young walrus which had been brought up at the aquarium with considerable patience and care, was found dead one morning: the day before he had been as lively as usual, playing happily with his two companions. The subsequent post-mortem revealed that *Seeku* died as a result of stomach haemorrhages caused by paper, small sticks, bits of plastic, and other foreign matter.

The aquarium's Director realised that *Seeku* had been eating debris which had either been lying about or had even been fed to him by visitors. He has since posted a second keeper at the walrus pool and circulated notices about the death.



THE XYZ CLUB

THE overseer of the London Zoo's Insect House was recently presented with a collection of hundreds of small animals of various kinds. They included shore crabs, whirligig beetles, dragonfly larvae, spiders, moths, oysters, cockles, mussels, and lizards (one of which had two tails).

These creatures were not collected by a scientist, or even by a professional animal-collector, but by young members of the Zoo's XYZ Club.

Members of this unique club are aged between nine and 18; they often go out on field trips, and on this occasion a group of 128 of them went to the sand-flats of Bradwell-on-Sea, in Essex.

Led by a keeper from the Insect House, two schoolmasters, and the Club's secretary and assistant secretary, they examined nearly every ditch and creek they came across to assemble their collection.

The purpose of the XYZ (Exceptional Young Zoologists') Club is to foster a greater knowledge and understanding of zoology amongst children. The club welcomes anyone between nine and 18 who is interested in learning more about the world's rare animals, the new kinds of animals which are constantly being brought to the Zoo from abroad, and the latest developments in zoology.

The club was started in 1959, and its membership is now in the thousands. Members are interested in everything to do with animals, from the way a zoo is run to keeping unusual pets.

Membership carries many advantages, such as free tickets to the London Zoo and Whipsnade Park, meetings at which animal films are shown, lectures by well-known authorities on zoological subjects, and field trips.

The club also runs animal-care and animal-photography courses, and competitions on such varied subjects as sketching, photography, general knowledge, essay-writing, and natural history.

Individual membership costs 10 - a year, although a group of 10 or more members from one club or natural history society can join at reduced rates. For further information, write to The XYZ Club, London Zoo, Regent's Park, London N.W.1.

Members beat a bush so that the insects fall into the cloth. Peter Chancellor holds a jar with a rubber tube attached—by sucking on the tube, the insects are drawn into the jar

IN BRIEF

The Barry Zoo in South Wales has had trouble in obtaining planning permission from the local authorities. However, building is now under way, and Wales' first zoo will shortly be officially opened.

The expedition members spent many tiring days on the trail of the oryx

As we progressed eastwards, so the stories told us by the Bedouin were of more recent sightings. At Sanau fort we had enlisted the aid of two members of the *elite* corps of Desert Guards, the trackers and guides for the Hadhrami Bedouin Legion. These two men, Tomatum and Mabkhut Bin Hassanah, promised us that we should catch oryx if we could find tracks not less than 48 hours old. They indicated that we should have to search an area of about 6,000 square miles. So with high hopes we pitched our tents and set up the radio homing beacon for the aircraft.

We prepared the catching vehicle, a 30-hundredweight truck. In the roof of the cab we cut a turret so that a man could stand on the passenger seat with his head and shoulders projecting through the roof. From this vantage point we hoped it would be possible to slip a noose of cotton rope, attached to a long aluminium pole, over the head of a galloping oryx.

The steppe country of the Wadi Mitan is uninhabited in summer, for the Bedouin, driven south by the heat, move with their families and camels to the wells at Sanau and Habarut. The northern deserts are left at this time of the year to the wolf, the desert cat, the gazelle, and, we hoped, the oryx.

Our guides told us that our best plan was to travel north up the *wadi* to the point where it disappears into the dunes of the Ramlat Mitan and Saudi Arabia. Here, in this jumble of grey gravel plains, soft yellow *wadi* bottoms with their sparse vegetation, red and yellow incipient sand dunes, and rocky gorges, we searched for days for the fresh tracks of an oryx driven by the daily increasing heat of the sun from the dunes on to the *jol*.

We saw the tracks left by the sand tyres of the Qatari hunting vehicles which harassed the oryx in this area in January. We crossed the ancient camel road which disappeared beneath an enormous sand dune and which is said to lead to the legendary city of Ophir, buried somewhere in the wastes of the Empty Quarter. After a week of fruitless searching we suddenly came upon fresh oryx tracks; we had followed them for about 25 miles when our guides told us that we were getting close to the animal. We then moved forward at about five mph with Tomatum or Mabkhut sitting on the bonnet of the Land Rover. This we did early in the morning and during the evening when the low sun cast a tiny shadow in the almost invisible hoofmarks.

And then, a few moments after a warning from Tomatum, we saw an oryx. It got to its feet from where it had been lying in the shade of an acacia bush, stretched, and set out across the flat stony wastes. The catching truck set out in pursuit and within a few minutes we were all sitting on one of the rarest animals in the world. The capture had proved easy. The oryx ran straight and did not jink. His top speed was about 35 m.p.h. and he was overhauled and noosed before he became exhausted.

Following a mile or so behind the catching party was one of the Hadhrami Bedouin Legion's 3-tonners loaded with our escort of Legionnaires and two oryx crates. After the oryx, which proved to be an old bull, had been injected with a drug to ward off the effects of the shock of his capture, he

The oryx proved very easy to capture—once it had been located

TUATARA

sole survivor of a prehistoric race

ON a few islands off the coast of New Zealand lives a reptile whose existence today is just as astonishing as the survival of a dinosaur would be. Perhaps even more so, because this creature, the tuatara, is a member of an order which flourished 200 million years ago—long before the dinosaurs reached their peak. It is a classic example of a living fossil.

The traditional wood carvings which ornament Maori meeting-houses often include the figure of a large lizard, symbolizing Death. In Maori mythology a lizard was the familiar of the goddess of fire, who brought death into the world by slaying her rebellious grandson. The tuatara and similar species, therefore, were dreaded as harbingers of misfortune, and were often depicted by the carvers.

The tuatara (*Sphenodon punctatus*) looks like a fairly large lizard (which it is not). It belongs to the order Rhynchocephalia or 'beak-heads'. This comes from the big, spade-shaped front teeth set in the premaxillary bones of the jaw which together form a 'beak'. The generic name *Sphenodon* means 'wedge-tooth' and refers to the shape of the teeth. It has double nostrils, no external opening to the ear, and the rudiment of a third eye on top of the skull, called the pineal eye. Traces of a lens and retina can be found in it by careful dissection, but it no longer functions as an eye and is not even sensitive to changes of light intensity. In the adult the pineal eye is covered by thick skin.

Tuataras vary in colour from blackish brown to dull green, while some have a reddish tinge. A spiny crest runs down the back and tail. The upper part of the body is covered with small granular scales and has scattered yellow spots. The five-toed feet are equipped with sharp claws and are partially webbed. The voice is a harsh croak, like that of a frog. The tuatara is a mild-tempered animal if gently handled, but can bite and scratch quite effectively in self-defence.

The islands where the tuatara is found are small, rocky, and windy, and lie off the north-east coast of the North Island, and in Cook Strait, between the North and South Islands. These little islands—about 20 of them—are also occupied by large colonies of birds, including petrels and shearwaters, known in New Zealand as 'mutton birds' because of their fatty flesh. Like the petrels and shearwaters, the tuataras live in burrows. In fact, they are only found on the islands where the burrowing birds have manured and 'cultivated' the soil. The tuatara excavates its own burrow where it rests during the day, apart from occasional excursions to bask in the sun; its habits are mainly nocturnal.

Although its diet is chiefly spiders, crickets, and other insects, the tuatara to some extent victimises its mutton bird neighbours. It will take possession of their burrows when pursued, and sometimes devours their eggs, chicks, and even the adult birds.

W. H. Dawbin of the University of Sydney has made a special study of the habits of the tuatara. He found that the animal has an extraordinarily low rate of metabolism and growth. Even when active it breathes only once every seven seconds, and can go for as long as an hour without breathing. Its breeding habits are remarkable: pairing occurs during January, but the sperm is stored in the female's body until the following October to December. She then scoops out a shallow nest in the ground and lays from five to 15 white, hard-shelled eggs, each about an inch long. There they stay, without any attention, for 15 months before hatching—the longest incubation period known for any reptile.

The growth-rate, too, is phenomenally slow. Tuataras probably do not breed until they are over 20 years old; they continue to grow up to the age of 50, and normally live to be over 100 years old.

At one time the tuatara seemed to be on the verge of extinction, but the New Zealand government stepped in and enforced strict protection. It now appears to be well-established. Specimens are occasionally sent abroad to zoological societies; the London Zoo has not had one for two years, but Edinburgh recently received a specimen from the New Zealand government.

The tuatara is extraordinarily insensitive to pain; there are instances of tuataras with broken legs and crushed ribs who appeared to feel nothing. It is also one of the most long-lived of creatures; it normally lives to be over 100

Meet *Digger*—the 6-month-old Jack Russell terrier on **Animals'** staff. These terriers take their name from a sporting parson of the 19th century, the Rev. John Russell, who, in an attempt to retain the best of the English working terrier, began breeding a strain of his own. One morning, when walking near Magdalen College at Oxford, he met a milkman who had a small terrier called *Trump;* a white dog with a patch of dark tan over one eye and ear and a small spot of black at the root of its tail. John Russell bought it there and then and took it back to his West Country home to found the 'Jack Russell' strain. A terrier of tremendous tenacity, a Jack Russell will tackle rat, fox, and badger. One look at his powerful front feet will tell you how *Digger* got his name.

Canadian veterinary officers examine a dead bison

THREAT TO THE THREATENED

Once in danger of extinction, the bison is now carefully protected in North American National Parks. But last summer the herds were faced with a new threat . . . .

Alan C. Jenkins

BUFFALO BILL is reputed to have been as great a marksman as Robin Hood, and more romantic stories have probably been written about him than about any other Wild West character. His daring exploits are now legendary, but there is no doubt that many of them were grossly exaggerated in the telling.

What we do know for certain, however, is that Buffalo Bill, and men like him, were responsible for bringing the animal after which he was named (and which should properly be called the bison) to the verge of extinction.

The Red Indians, with their bows and arrows, had caused the bison little harm; they killed only for their own needs, not for gain. Then came the white man, and though his rifle had decimated the herds for several years beforehand, it was the building of the trans-continental railways that nearly spelled the bison's doom.

Men such as Buffalo Bill contracted to supply meat for the thousands of workers employed, while the remains of carcasses were valuable as fertiliser. In addition, the coming of the railway prevented the herds from carrying out their annual migration to fresh pastures.

The files of the Northern Pacific Railway brutally sum up the fate of the bison. In 1882, the company transported 200,000 buffalo hides; in 1883, 40,000; in 1884, 300; and then, in 1885, none. The slaughter was complete. Once again Man had underlined his claim to being Nature's most destructive creation.

By dint of painstaking and devoted conservation work, however, the remnants of the once mighty herds whose hooves had made the prairie tremble were gathered together and protected rigorously, so that small herds totalling about 30,000, still survive in the United States National Parks.

In Canada, unremitting efforts have also brought their reward. By the turn of the century there were fewer than 500 bison in the whole of the country, but now a herd of some 16,000 roam in safety through the Wood Buffalo Park, an area of 17,000 square miles of wilderness south of the Great Slave Lake. Considerable numbers of bison were beginning to wander outside the park and so it was decided two or three years ago that limited hunting would be allowed. Two big Canadian game outfitters were granted guide licences and allowed to take about fifty animals a year.

And then, last year, a different danger threatened the bison. The prairie-woodland country frequented by the bison was too wet for any vehicular traffic except tracked carriers, and the various hunting parties used horses for transport. Apparently, owing to the difficulties of the terrain and the onset of winter, some of these horses were abandoned. They died from unknown causes, but the discovery of their skeletons alerted the Canadian Wildlife Service, which keeps a biologist at Fort Smith, whose studies include ecology and the welfare of the bison both in the Park and outside. Nothing in the specimens taken from the dead horses aroused suspicions of anything untoward, and it was presumed that the animals had died of starvation.

continued on page 18

The wood[illegible]n of northwestern Canada has surviv[illegible] unchanged since prehistoric times

There were at one time several kinds of North American bison, but now only two of them remain

But while the Wildlife officer continued a routine assessment of the grazing range, he came across 30 dead bison in an area about sixty miles north of Fort Smith, on the east side of the Slave River and very close to one of the outfitters' hunting camps. Shortly afterwards the number of dead animals rose to 150 and it was clear that something disastrous had happened.

The Wildlife Service immediately sent a veterinary pathologist to the area to collect specimens from the dead bison. In less than two days a diagnosis had been made in the Alberta Veterinary Laboratory.

Anthrax had struck the bison.

Anthrax is one of the most dreaded diseases among ruminants and horses. It is all the more fearful because of its sudden onset and rapidly fatal course. While the victims sometimes show symptoms such as trembling, difficulty in breathing and discharges, they die just as frequently without signs of the disease. The outbreak among the bison was complicated by the fact that migrating caribou herds passed near enough to be in danger. Another important factor was that anthrax can also be contracted by man.

Drastic action was necessary. In conjunction with the Canadian Department of Agriculture, the Wildlife Service put into operation a plan which was almost military in its scope and detail. It even entailed sending in a public health doctor and assistants to superintend the health of the staff and the decontamination of all clothing and equipment.

Because of the difficult nature of the terrain, three crawler tractors were transported into the region by barge down the Slave River and operated from a camp established at an old sawmill site. These were supported by tracked personnel carriers known as muskeg tractors or bombardiers. This aspect of the work alone involved nearly forty men.

Meanwhile, all the infected animals had to be discovered and charted. Every single carcass had to be 'flagged' for subsequent disposal which had to be carried out on the spot whenever possible in order to avoid spreading spores of the disease. This 'flagging' was done by a helicopter crew which had been on stand-by duty for forest fire suppression in the neighbourhood: its final count of stricken bison was about 275.

Now the grim and arduous work of disposal had to be carried out by the ground staff. Because the water table was so near the surface it was impossible to bury the animals the necessary six feet below ground level, so the soil had to be scooped up and mounded over the remains with a bulldozer. Nearly three hundredweight of lime was necessary for each burial, a total of some 35 tons which had to be flown in from Edmonton by DC-6 freighter aircraft. Any subsequent carcasses discovered were burnt with wood and oil.

Once this gruesome task had been accomplished, it was essential to herd the remaining bison out of the infected area, which comprised some 700 square miles. Many of the animals had already taken themselves off because of the intensive human activity connected with the operation, but the rest were driven out by means of a light aircraft and a helicopter which gradually shepherded them to safety.

It took three days to herd the bison out of the area and then the work of disinfection began. A forestry crew moved in to fire the area in the hope of destroying the bacterial spores and also to discourage the bison from returning to graze. They used oil-fired flame-throwers and planned to drop plastic bags of diesel fuel from aircraft in order to keep the fires stoked up. Unfortunately an unusually wet summer and autumn hampered their efforts, and only a small portion of the desired burning was achieved. Patrols have been organised to try to prevent animals straying back into the infected region; these will be continued for at least a year.

In general, the region has been placed in quarantine, and travel reduced to a minimum. The situation is complicated by the fact that half-breed hunters have hitherto depended for food on being allowed to kill about 100 bison annually; another source of meat will have to be found for them, probably from bison culled from the main Wood Buffalo Park herd.

Anthrax is extremely resistant to eradication and precautions will have to remain in force for a long time. The danger period will be in the spring of this year when the animals try to move back into the infected prairie meadows in search of grazing.

The Canadian Wildlife Service undoubtedly have a tough job on their hands, but they are determined to prevent the scourge of anthrax spreading into the precious Park herd. It would be a tragedy if a disease, the source of which has not yet been traced, should succeed after the bison have been so narrowly saved from extinction at the hands of the rapacious hunters of the past.

OPERATION ORYX

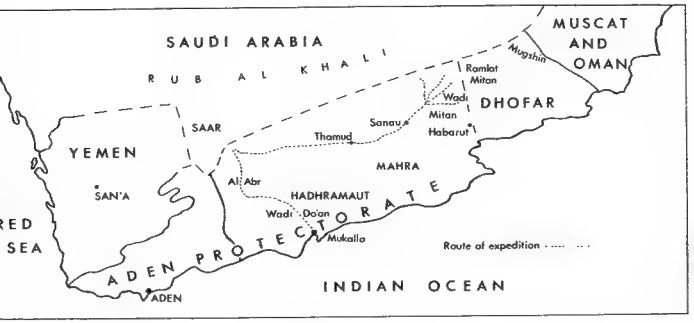
An exercise in practical conservation

M. H. Woodford

A small expedition led by Major Ian Grimwood, Chief Game Ranger of Kenya, recently captured three Arabian oryx and transferred them from the Eastern Aden Protectorate to Isiolo, in Kenya. Mr. Woodford, the expedition's veterinary officer, explains why this animal is now so rare, and describes how the three specimens were successfully caught and shipped to safety.

THE Arabian oryx (*Oryx leucoryx*) is a medium-sized antelope, weighing about 250 pounds and standing 40 inches high at the shoulder. Its coat is pure white, with chocolate-coloured legs and face markings, and both males and females have long, straight horns. In fact, the oryx is among the animals thought by some to be the legendary unicorn, for when seen from certain angles it appears to have only one horn. The animal has great powers of strength, endurance, and bravery and many Bedouin believe that by killing and eating it, some of these attributes will pass to the successful hunter. The consumption of oryx flesh is also supposed to rejuvenate the senile, cure stomach aches, heal fractures, and expel embedded bullets! These beliefs have caused the oryx to be named 'Doctor of the Arabs' by some of the tribesmen of Arabia.

In the past, the Arabian oryx ranged throughout the greater part of the Middle East. In 1800, oryx were still to be found in Sinai, southern Palestine, Jordan, Iraq, and almost all of the Arabian peninsula. During the next 100 years, however, the range of this spectacular antelope diminished rapidly, and by the outbreak of the First World War there were very few survivors outside Saudi Arabia. Human activity in the deserts then increased



The map on the right shows the general area to which the oryx is now confined, while the map on the left indicates the route of the Fauna Preservation Society Expedition

rapidly, and it was this factor, coupled with the ensuing wide distribution of firearms, which brought about the extinction of the animal outside Saudi Arabia. The last remaining 'unicorns' took refuge in the 1930's in the Nafud desert in northern Saudi Arabia and in the Southern Wilderness of the Rub al Khali, or Empty Quarter, in the south. These two groups were isolated from one another.

In the late 1930's, the Arabian princes obtained access to oil revenues, which enabled them to purchase cars, petrol and automatic weapons. Then, copying the example of the oil company employees, they set out to hunt the rather scanty wildlife of the desert.

Unfortunately for them, these fleet antelopes prefer to live on the *jol*, or gravel desert, where their speed and endurance stand them in good stead against enemies on foot or camel-riders. But the *jol* is also ideal for high speed driving; it is flat, and only rarely intersected by *wadis*, or dry water courses, where the sand is soft. With the coming of cars and lorries to the desert, oryx and gazelle were driven down and slaughtered in hundreds by hunting parties composed of up to 300 vehicles. Repeating shotguns as well as rifles were used, and often the terrified animals were simply chased until they were exhausted, when their throats were cut by members of the royal retinue. In the last ten years, the richer sheikhs have even added light aircraft to their hunting parties.

In January 1961, the Fauna Preservation Society heard that a member of the ruling family of Qatar, a small oil-rich state on the Persian Gulf, had led a motorised hunting party some 600 miles across the Rub al Khali; the party had then killed a large number of oryx in their last refuge in the desolate *wadis* just inside the north-eastern corner of the Eastern Aden Protectorate. Formal protests were made to the Qataris, and plans were made immediately to launch a rescue operation. For a variety of reasons it was not possible for the expedition to leave until the spring of 1962 and in the meantime, in spite of high-level protests, the Qataris carried out two more raids in the same area in December 1961 and January 1962. Each time they found and killed a number of oryx.

Our expedition consisted of seven Europeans, from Britain, Aden, and Kenya, and was led by Major Ian Grimwood, Chief Game Ranger of Kenya. For reconnaissance, the team was equipped with a Piper Cruiser aircraft lent by the East African Wildlife Society. We assembled in Mukalla in mid-April, and set out in a convoy manned and provided by the local Arab military unit, the Hadhrami Bedouin Legion, a colourful force commanded by Lt. Col. J. W. Gray. Our convoy of Land Rovers and Bedford 3-tonners wound its way laboriously north-west into the fertile Wadi Do'an. We then followed the ancient incense routes until we came to the white Legion-occupied fort overlooking the well at Al Abr in the country of the Saar.

We lingered at the fort only long enough to inspect some pre-Islamic rock carvings, among which we were able to distinguish representations of the Arabian ostrich, the wolf, and the oryx. We left at dawn so as to have time to cross the soft sand of some of the southernmost dunes of the Rub al Khali before the sun made the sand too hot to support our vehicles.

From Al Abr we motored in a north-easterly direction along the length of the gravel plains of the northern deserts, stopping only for a few hours at night to pitch our camp on the sand among the scorpions and camel spiders. We passed the Legion forts at Thamud and Sanau and after seven days of driving in temperatures which reached 120°F by day, we reached our destination. This was the Wadi Mitan, an area of gravel-desert *jol* lying between the sand seas of Saudi Arabia to the north and the mountains of the Mahra country to the south. We were 120 miles from the well at Sanau and an equal distance from the only other source of fresh water at Habarut. We were in oryx country at last!

was put in a crate and transported slowly across the desert back to the fort at Sanau where a stall had been prepared for him.

We spent the next 14 days searching. Our pilot, accompanied by Tomatum as navigator (because our homing beacon had broken down), flew many abortive sorties. All he saw were Qatari tracks and occasional gazelle. Then suddenly we came on the fresh tracks of oryx moving south towards

The expedition captured three specimens. It is hoped to establish a breeding nucleus with these animals and others at present in zoos

our camp in the Wadi Mitan. At once we started to follow them and after tracking in the blinding sunlight for 58 miles we caught up with three oryx resting from the mid-day heat in a little area of shade under an overhanging rock. Once again the catching vehicle raced out across the gravel and soon the noose had been slipped neatly over the rapier-like horns of a fine female oryx. Leaving this most valuable captive behind in its crate on the *jol*, the truck tore after the other two. This time the chase was rather more protracted because the vehicle became stuck in the soft sand of the *wadi* bed. Finally, however, both were successfully caught.

During this last chase Major Grimwood, who was manipulating the catching poles, was thrown against the edge of the turret and broke two ribs.

Shortly after the capture of these last two oryx, both of which were bulls, one of them died. The subsequent post-mortem revealed the presence of a .303 bullet which must have been fired some weeks previously by the Qatari raiders.

We now had our hands full back at the fort in Sanau. Three oryx, two bulls and a cow, had to be fed and to do this a Land Rover had to scour the surrounding gypsum hills for suitable vegetation. Meanwhile, back in the Wadi Mitan, the catching teams continued their efforts to locate further specimens. But luck had left us. We had caught all the animals we had seen, and although we saw signs of a total of eleven oryx, it was evident that the remainder, harried so often by motorised hunters, had withdrawn eastward in the direction of Mugshin in Dhofar.

On May 24th an RAF Beverley flew up from Aden on a ration run to the fort at Sanau. It had been arranged that we should load our crated oryx into the empty aircraft for the return flight to Aden.

We left Sanau at 4.15 in the morning, just as the sun was stretching out long fingers of yellow light over the gravel steppes; five hours later we were dripping with sweat as we transferred our precious cargo from the Beverley to an RAF Transport Command Britannia at Aden's Khormaksar Airport. The final leg of the oryx's long journey to their 'place of greater safety' in Kenya was soon under way and the same afternoon we landed at Nairobi Airport. Customs formalities were waived and the crates were quickly loaded on to Game Department lorries. These carried the somewhat bewildered trio to a game farm just outside Nairobi; there they were released in specially prepared pens equipped with infra-red lamps against the cold, damp Nairobi weather.

The oryx have now been moved to Isiolo, in the Northern Frontier District of Kenya, where the climate is more suitable. They will stay in Isiolo until it has been decided where this breeding nucleus of Arabian oryx shall be located. The ultimate aim of the Fauna Preservation Society is to return some specimens to Arabia when adequate arrangements have been made to ensure their protection. In the meantime, it is likely that the raids from Qatar will continue, for the prevailing philosophy in Arabia towards wildlife is: 'If I don't kill them today, someone else will tomorrow.'

OWLS: THE SILENT KILLERS

Hugh Brandon-Cox

OWLS have been creatures of romance and legend from the very first folk-tales. People of many races have built around them a veil of mystery, although their wisdom has certainly been greatly exaggerated.

Personally, I have found them to be some of the most interesting birds of the wilds; from the eagle owl in the far North to the sheer cheek of the little owl in an English country lane, they have a fierce fascination that drives one on to learn more about them.

Probably the lovely barn owl, or ghost-owl as I prefer to call it, has inspired more tales of haunting than any other bird or mammal. It is perhaps the nearest approach to a genuine ghost we are likely to meet, for often its feathers will become illuminated as with a phosphorescent glow as it glides on silent wings through the woodlands or along the hedgebank. Straight ahead flies the white form, with the moonlight catching for an instant at those huge, round eyes. The soft, rounded wings do not push through the air, but rather fan down upon it, making for flight that is without any rushing sound whatever.

To find a barn owl asleep is to see what looks like a dried-up stump. I have actually picked one up from an old broken tree like this, and it remained absolutely rigid in my hands. In its natural, relaxed state, however, it is a truly lovely bird, with soft white breast and yellowish-buff wings spotted with dark brown and black. It is all too rarely that its natural beauty can be studied at close quarters, for woe betide the traveller who comes too near its nesting site. Hooked beak and claws like steel will be used to good advantage to protect the young, and many a traveller in the dusk has had a badly scratched face from an attacker he only glimpsed for a second. It is in this way that stories of hauntings are born.

The barn owl adds to its somewhat sinister reputation by making a niche in a church or crumbling castle wall its home, and after making a kill it has the habit of uttering a rather fearful and penetrating screech, which it repeats several times. Then it resumes the hunt, which, when there are young to be fed, becomes a matter of almost desperate urgency during the hours of darkness.

It is not true that owls are blind in the daylight. Their eyes have been specially adapted, as are those of the domestic cat, to catch every gleam of light that comes to them in the dusk and early darkness—but that does not make them blind in stronger daylight.

It must take amazingly good eyesight to pick out the swiftly-moving form of a tiny shrew or mouse as it

The barn owl, resembling a white ghost, returning from a hunting expedition with a vole

moves through the grass in the light of a summer evening. But I have watched a barn owl hunting a field by a river estuary, and know its methods. Up and down it will systematically fly over the field, suddenly dropping like a silent dart, and rising again a few seconds later with the victim squeezed in its steely grasp.

Off it flies to its favourite and much-used perch, where it swallows its prey with one convulsive gulp. Much shaking of the head and blinking of the eyes follows this method of eating, and a short rest is needed if the meal is large.

After a few hours, the undigested portions of bones, fur, beak, feet, and other bits and pieces that even an owl cannot cope with are disgorged in the form of a long greyish pellet. These often make quite a considerable pile under its perch, and if broken open reveal the white bones of small mammal or bird. They make a very interesting study and one can learn a good deal from them.

I have always had a great liking for owls. The first I ever had as a pet was brought to me, an untidy bundle of brownish, dowdy feathers, when it was about a fortnight old. He was a young tawny or brown owl, and after being well fed he soon grew into a strong-willed but intelligent pet. He had a natural loathing for wire-netting enclosures, but, given his freedom, showed no desire whatever to leave. He chose an old shed to sleep in during the daytime, and in the evening he would appear and give a loud *queek, queeek* for his meal, which he supplemented with mice, young sparrows, and other delicacies.

It was rather amusing to come up behind him and call him. Completely round would swing the fluffy brown head. Although the eyes of an owl are set forward as in a human, Nature has made it possible for the owl to swivel its head completely round, so as to keep a possible enemy always in sight.

Tawny owls are much heard in the evenings, for as they fly on their hunting trips, like huge, blunt-headed moths, they call constantly to each other. The cry is a penetrating *keek, keek, keek,* and as the owls very often hunt in pairs, they keep their positions by their calls. This owl also has the loud, *too-whooo-hooo* call, which echoes far across the fields on a still evening and is quite alarming when first heard nearby in a wood.

The traditional old hollow trees are favoured by the tawny owl for nesting and sleeping, but the barn owl would rather have a barn, with the scuttling mice under its eyes. Farmers who have a pair of barn owls in the outbuildings are lucky, for there were never better mousers.

The eggs of both these birds are pure white and almost round, and are laid on a very rough nest of a few twigs and undigested pellets.

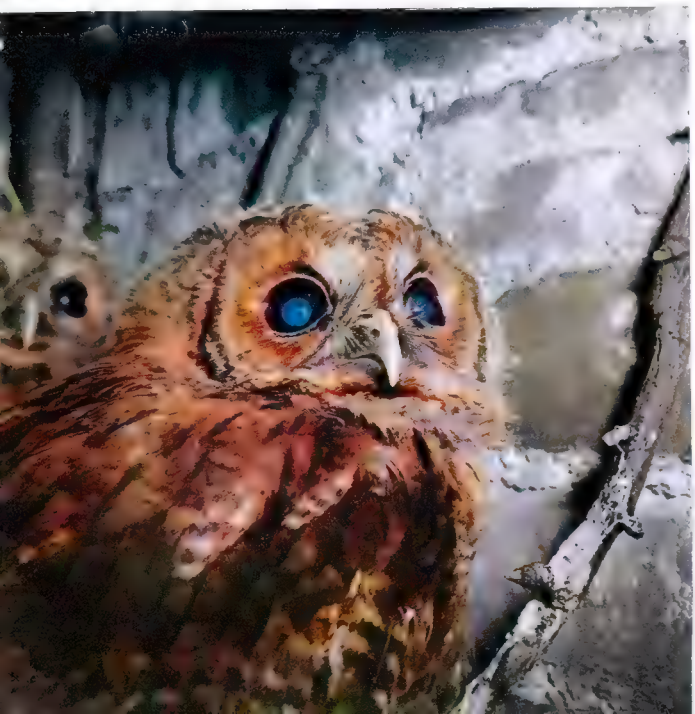
Owls, like some hawks, begin to brood their eggs as soon as the first is laid, and there is a good practical reason for this. The first egg hatches in about a month and the others at regular intervals after that, so that perhaps in a single nest there sit a spitting, hungry youngster, an egg just chipping, and one freshly laid. This 'staggering' of the family allows the owls time to catch sufficient food to satisfy their ever-hungry brood.

Although a very young owl may be content with such small fry as caterpillars, it very soon requires mice and voles, and these take a good deal of catching, even for our silent-winged hunters.

Because the parents are away from the nest for ever-longer periods finding food, the eggs still to be hatched are kept at a warm temperature by the youngster already in the nest—a typical example of the common-sense way in which the laws of the nature world have been planned.

One member of the owl family that can be met with in the day hours, often

Young tawny owls waiting for food



The little owl, a tiny, fast killer that can often be seen during the day perching on an old post

perching on the top of a country gate, is the little owl. Rather unjustly hated by all gamekeepers, this deadly little bird was brought into England from Greece in the latter half of the last century, since when it has greatly multiplied, and managed to make many enemies. It is little bigger than a thrush—some nine inches in length—and is dark greyish-brown in colour, flecked with white. A hole in a barn, low building, or tree serves as a nesting site, and if any of you have the chance of watching a pair at the nest when they have young you will be amazed at the number of cockchafers and other

grubs they bring back to the nest. They are prolific killers of mice, beetles, worms, moths, earwigs, and other small fry, and can be so quick in flight that they will even seize a small bird on the wing.

The little owl has a remarkably flat head for an owl, and the habit of sitting perched on walls, fences, gate posts, or tree branches quite openly in the daylight. I have met it in the pine forests of Sweden, where it sat on a lichen-covered twig and gazed down at me with a disapproving, almost human expression. For protection when resting, it will draw itself up until it looks exactly like a dry twig, as does the barn and even the tawny owl, and will even fall to the ground in this rigid position and remain still until it feels the danger has passed.

When they are disturbed, they will take flight with a queer, woodpecker-like undulating action. I have sat in a wood in the evening and listened to little owls calling back and forth with a strangely engaging cat-like *kiew, kiew*. But they can also give a harsh, yelping cry.

A bird which to my mind seems to convey visually all that owls are supposed to represent is the long-eared owl, a lover of conifer forests. This is really a most vicious-looking bird when angered, with its bright yellow eyes and prominent ear tufts. About fifteen inches in length, it has a wing span of about three feet. In colouring it is reddish-yellow mottled with brown and grey, with its lower parts lighter and streaked with deep brown.

It is not often seen, as during the daylight it will sleep in the thick foliage of a tree, but when it is spotted by small birds there is a real commotion. Because of its habit of taking small birds from their nests, it is a number-one enemy as far as the other birds are concerned, and they scream all the abuse they can during the day, when they feel they are safe.

The long-eared owl will take possession of the old nest of a crow or magpie, or even a squirrel drey, for itself and lays four to five white eggs. There is only one brood each year, and during the short breeding season of March and April it is possible to hear the rather long, mournful *coooo-oo-oo* of this lonely and reserved owl.

There is one more owl native to Britain, a real lover of the moors and fenland and a master of camouflage when sitting on its white eggs, which are laid in a mere scrape in heather or rough grass. This is the short-eared owl, very similar to the long-eared, except in the fact that the ear tufts are much shorter, and that it is definitely no lover of the dark forests. The general plumage is paler and tawnier, and the wings are exceptionally long and narrow compared with the other owls, giving it a more hawk-like appearance when it is hunting. Over the fenlands where I have spent many long hours filming, short-eared owls will hunt over and around the lodes in the hours of daylight. It can also be seen over the turnip and stubble fields in the autumn.

The owls are very useful members of the bird world—a kind of silent mobile police force, ceaselessly patrolling and waging war on mice and other crop-eating creatures. And if they can be studied at close quarters, there is something about their whole demeanour that is very appealing.

The fierce-looking long-eared owl, a lover of the deep, silent coniferous forests, bringing back a rat to its mate on the nest

The short-eared owl, a lover of the fens and moors. It is a master of camouflage when sitting on its eggs in the rough grass

007 MEETS THOMAS

Stephen Dalton

JAMES BOND'S code-name '007' indicates that he is allowed to kill in the course of duty. He usually escapes from most adversaries without much trouble, but sometimes he encounters an especially cunning opponent. Dr. No was just such a man, and not long ago I found myself indirectly assisting him in an attempt on Bond's life.

This is how it happened.

One evening my telephone rang: it was a friend of mine who said he had a peculiar spider which he had found in a bunch of bananas. Would I like to have it? Like many people, I have always had a horror of large spiders. But my friend was going away the next day, and, perhaps because I had no time to think his offer over, I said I would collect it there and then.

When I arrived my friend put his hand in his pocket and produced a polythene bag containing a sinister black and hairy thing—a young bird-eating spider (*Avicularia avicularia*) from the West Indies.

The spider flourished, and after a few weeks had to be transferred from the jam jar it was kept in to a large sweet jar. It had by this time become one of the family and, for some obscure reason, was called *Thomas*—although it was a female.

Bird-eating spiders belong to the family Mygalomorphae which includes some of the largest spiders in the world. *Thomas*' species is by nature arboreal and is often found in banana plantations, where it constructs a thick untidy web. Its normal prey consists of large insects, although it welcomes small mammals and birds if they become entangled.

James Bond shivers with fright as Thomas, *a young bird-eating spider, watches him from his pillow*

Bird-eating spiders, particularly the arboreal species, move quickly and inflict a vicious and poisonous bite which is occasionally fatal to man.

I used to keep *Thomas* on a shelf in the kitchen, next to the rice, tea, and coffee jars. Periodically, it was taken down and given flies, moths, and other insects which it was adept at catching. I have seen it capture seven moths within about a minute, the seventh being snatched from the air while the first six were still struggling in its jaws.

About eight months after I acquired *Thomas* it had grown to the size of a saucer, and it was then that I was contacted by Pinewood Studios. They were making a film of *Dr. No*, and wanted to borrow my 'tarantula' for one of the scenes.

I explained that I certainly owned a large spider—but that it was not a tarantula. 'Not a tarantula? Well, I'm afraid that's no good then.' 'Ah,' I

Bird-eating spiders are amongst the largest in the world. Thomas *was about the size of a saucer when she appeared in* Dr No

replied, 'but a bird-eating spider is much larger and more horrifying than an insignificant tarantula, and anyhow, most people think that bird-eating spiders *are* tarantulas.'

But no, the man said, he wanted a real tarantula, and would have to look elsewhere for one. A week later, he rang again. He could not find anybody with a tarantula, and so would like to use *Thomas* after all.

Two days later my father and I went to Pinewood with *Thomas*.

For its first scene a small cage was built with cane bars spaced about an inch apart. As soon as *Thomas* was placed in this cage, it turned on its side, walked straight out and started racing across the stage. After a slight commotion, it was captured and returned to its jar. Everyone waited while the carpenter modified the cage.

Now all was set—except that the director wanted *Thomas* to move about and not look like a dummy. Time and again the scene was shot but each time *Thomas* refused to budge. Eventually, it was made to move with the aid of air jets and an assortment of aerosol sprays.

In its next scene, *Thomas* had to crawl over Bond's naked body. How dangerous was its bite? Dangerous enough, it was decided, to warrant a doctor's presence close at hand.

Tension mounted in the studio, and as Bond was sprayed with 'sweat' he could not conceal a nervous tremor. *Thomas* was tipped gently on to the sheet which was tucked tightly round the actor's naked torso, and the camera started turning.

A touch on its hind legs sent *Thomas* walking slowly up Bond's arm, to his shoulder, and then on to his neck, where she paused. One could have heard a pin drop. 'Keep perfectly still,' said the director quietly, but Bond needed no advice. *Thomas* seemed to like the jugular vein area, but eventually it moved off on to the pillow.

It had played its part with distinction and was duly returned to its jar for the journey home. Six months later it died while shedding its skin.

Sir Julian Huxley F.R.S.

SIR Julian Huxley, our patron, is one of the best known biologists of our time, and his many contributions to the advancement of zoological science are recognised throughout the world. He is a grandson of T. H. Huxley, himself a famous biologist and one of the earliest and most ardent supporters of Darwin's theory of evolution. Sir Julian is an authority on many subjects, and is greatly respected in the numerous countries where he has lectured and held an impressive variety of posts.

Perhaps one of his most worthwhile accomplishments has been to make animal biology intelligible to the layman; he has helped to stimulate widespread interest in this subject and his writings have certainly endowed it with considerable general appeal. In the zoological field, his efforts have been directed towards the fascinating study of animal behaviour. His research has produced results which are not only interesting but also of great scientific significance and usefulness to mankind.

Sir Julian has for many years been closely associated with education. He spent some time in East Africa advising on native education and was a member of the General Committee for Lord Hailey's African Survey from 1933-38. He has held various professorships and other posts in universities throughout the world.

Among the various positions he has held during his career, Sir Julian was Secretary to the Zoological Society of London, from 1935-1942, and for two years was Director General of UNESCO. He has been connected with many other associations and societies all over the world, particularly in North and South America.

Besides lecturing and broadcasting, Sir Julian has written many books, including *Kingdom of the Beasts* and *The Individual in the Animal Kingdom*.

SILENT SPRING

RACHEL CARSON

Two weeks from now—in our fourth issue—we shall publish the first instalment of *Silent Spring* by Rachel Carson. Many readers will be familiar with Miss Carson's best-seller, *The Sea Around Us*, and it will come as no surprise to learn that her latest book is already high on the best-seller lists in the United States.

A passionate and eloquent plea for greater care in the application of harmful weedkillers and insecticides, *Silent Spring* is sure to stir up tremendous concern when it is published in this country in a few weeks' time. Miss Carson documents many instances where wildlife has been needlessly destroyed (and human life endangered) as a result of the blankets of powdered and liquid death which have been spread over millions of acres of the earth's surface. We hope you will all read these extracts from Miss Carson's book with open minds—and draw your own conclusions from the evidence she presents. Remember, *Silent Spring* starts on January 29.

PHOTO CREDITS

Front cover: Armand Denis Collection; page 2, Ida Kar (oryx); pages 4, 5 and 6, Armand Denis; pages 7, 8 and 9, Russ Kinne; page 12, John Markham; page 13, courtesy of British Museum; page 14, Ida Kar; page 15, Canadian Wildlife Service; pages 16 and 17, Schumacher; page 18, Canadian Wildlife Service; pages 19, 21 and 22, M. H. Woodford; page 23, (upper) Eric Hosking, (lower) Heinz Tomanek; page 24, Hugh Brandon-Cox; pages 25 and 26 Eric Hosking; page 27, Margiocco (Paul Popper); page 29, Stephen Dalton; page 32, Oswald Jones (courtesy Victoria and Albert Museum).

FROM NEXT WEEK'S ISSUE

Among the highlights of next week's issue is an article by **Armand Denis** on how giraffes are captured at Wankie Game Reserve in Southern Rhodesia. He will describe how they are first blindfolded, which renders them surprisingly docile, and then led to their cage by means of a remarkably efficient harness.

Our **'animal in danger'** next week is the mountain gorilla. Found only in the dense forests of the Congo and Uganda, these creatures have never been very numerous; but because the country they live in is so inhospitable, their chances of survival are relatively good.

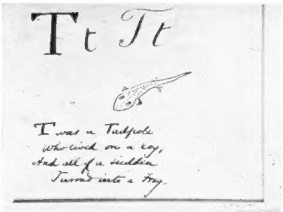
Operation Oryx starts on page 19 in this issue. Many people consider that the oryx was the unicorn of old.

Also in next week's issue are articles on **Peter Scott's** Wildfowl Trust at Slimbridge, in Gloucestershire.

Edward Lear

The red-capped, or pileated parakeet which appears on our back cover is found in south-west Australia. The original hand-coloured lithograph was the work of Edward Lear, who is well-known as the author of numerous limericks and nonsense rhymes, such as *The Owl and the Pussy Cat*.

Born in 1812, Lear was the youngest of 21 children, and taught himself to be an extremely skilled painter of birds, specialising in parrots. His



talent so impressed the 13th Earl of Derby that the latter became his patron; it was to amuse the Earl's son, Edward Stanley, that Lear composed his nonsense rhymes. Every morning he used to put a new letter of his nonsense alphabet by the boy's plate at the breakfast table.

In issues 3 and 4 of **Animals** we shall be reproducing two more of Edward Lear's watercolours which have never been published before. They belong to Sir Steven Runciman, the distinguished mediaeval historian. In this series we shall have many animal pictures by famous and not-so famous artists.

Animals IS A MAGAZINE WORTH KEEPING

So that your copies of **Animals** are always available for your immediate reference fill in the coupon below right. We shall send you, by return, the special binder for **Animals** at half the normal price. If you do not wish to cut this issue of **Animals** just copy the coupon.

An attractive hard-wearing binder for **Animals**, holding 24 copies by the easibinder metal rods, it is simple to work and keeps all copies firmly in place.

Normal cost of this beautiful binder is 15/-. The special half-price introductory offer to all readers of **Animals** closes on 26 February. After this date you should order your binders from your newsagent.

© 1962 Purnell and Sons Ltd.
Printed in Great Britain by L.T.A. Robinson Ltd.

Please send me the **Animals** binder at the special half-price of 7/6 (normal price 15/-). I enclose a cheque/postal order payable to Knowledge Publications Ltd. for 7/6 plus 1/3 for postage and packing, making a total of 8/9.

CUT HERE

Name .....

Address .....

.....

.....

Please add your name and address here and below. ↓ .....(county)

Post to Dept. AB., Knowledge Publications Ltd., 10A Burnett Street, London, S.E.11.

KNOWLEDGE PUBLICATIONS Ltd.

Name .....

Address .....

.....

..... (county)

10A Burnett Street, London, S.E.11.

CUT HERE

Red-capped, or pileated parakeet (*Porphyrocephalus spurius*)